REMARKS

The Office Action dated June 27, 2006 has been received and carefully noted. The following remarks are submitted as a full and complete response thereto.

Claims 1-20 are respectfully submitted for consideration.

The Office Action rejected claims 1-6 under 35 U.S.C. 103(a) as being obvious over US Patent No. 6,249,252 to Dupray (Dupray), in view of US Patent No. 6,300,904 to Dvorak (Dvorak), and further in view of US Patent No. 6,438,723 to Kalliojärvi (Kalliojärvi). The Office Action took the position that Dupray disclosed all of the features of these claims except the features of analyzing an effect of ignoring a measurement. The Office Action took the position that Dorak disclosed this feature; and the feature of identifying suspicious measurements which is asserted to be disclosed by Kalliojarvi. Applicants respectfully submit that the cited references taken individually or in combination, fail to disclose or suggest all of the features recited in any of the pending claims.

Claim 1, from which claim 2 depends, is directed to a method of providing information regarding a location of a mobile user of a communication system. The method includes performing measurements for provision of input data for a location calculation function, and analyzing an effect of ignoring a measurement, to identify suspicious measurements. The method further includes deciding selected measurements

for use by the location calculation function, and calculating a location estimate for a mobile user based on the selected measurements.

Claim 3, from which claim 4 depends, is directed to a communication system. A measuring device is configured to perform measurements for provision of input data for a location calculation function. An analyzer is configured to analyze an effect of ignoring a measurement to identify suspicious measurements. A deciding unit is configured to decide selected measurements for use by the location calculation function. A calculating device is configured to calculate a location estimate for a mobile user based on the selected measurements.

Claim 5, from which claim 6 depends, is directed to a communication system. A measuring means performs measurements for provision of input data for a location calculation function. An analyzing means analyzes an effect of ignoring a measurement, to identify suspicious measurements. A deciding means decides selected measurements for use by the location calculation function. A calculating means calculates a location estimate for a mobile user based on the selected measurements.

The present invention relates to detecting suspicious (or erroneous) measurements which are out of line with the other location measurements in order to reduce the overall inaccuracy of a location calculation. Accordingly, outlying measurements which are inconsistent with more consistent measurements can be eliminated entirely from the calculation. See at least paragraphs [0044] – [0047] of the present application.

Applicants respectfully submit that the pending claims recite features that are neither disclosed nor suggested in any of the cited references.

Dupray is directed to a location system is disclosed for commercial wireless telecommunication infrastructures. The system is an end-to-end solution having one or more location centers for outputting requested locations of commercially available handsets or mobile stations (MS) based on, e.g., CDMA, AMPS, NAMPS or TDMA communication standards, for processing both local MS location requests and more global MS location requests via, e.g., Internet communication between a distributed network of location centers. The system uses a plurality of MS locating technologies including those based on: (1) two-way TOA and TDOA; (2) pattern recognition; (3) distributed antenna provisioning; (5) GPS signals, (6) angle of arrival, (7) super resolution enhancements, and (8) supplemental information from various types of very low cost non-infrastructure base stations for communicating via a typical commercial wireless base station infrastructure or a public telephone switching network.

Dvorak relates to a method for calculating a position of an item to be located, which uses average time difference of arrival of signals from the item at multiple spaced apart receivers. However, the method of Dvorak primarily relates to a method for locating a small mobile robot called a "scout" using larger robots ("rangers") and employing GPS measurements.

Kalliojärvi relates to a method for reliably receiving digital information from a transmitting device. Although the method relates to error detection and correction, it

merely concerns how packet data is coded, transmitted and received, including how errors in the data are corrected and how data is retransmitted. This document does not appear to relate to determining the location of a mobile user at all.

Applicants respectfully submit that the cited references fail to disclose or suggest at least the feature of analyzing an effect of ignoring a measurement as recited in claim 1 and similarly recited in claims 3 and 5, because Dvorak fails to cure the admitted deficiencies of Dupray and Kalliojärvi.

As stated above, the Office Action asserted that this feature is disclosed in Dvorak. However, Dvorak merely states that "statistical processing can also be used to remove data points that are obviously subjected to multipath anomalies" (see column 5, lines 23 to 25 of Dvorak). Thus, Dvorak fails to disclose or suggest that suspicious data points are identified by analyzing the effect of ignoring a measurement. There is no suggestion in Dvorak that a particular average is calculated with and without particular data points or, that discrepancies between particular data points and an average value are calculated. Thus, the cited references fail to disclose or suggest at least this feature because Dvorak fails to cure the admitted deficiencies of Dupray and Kalliojärvi.

Further, Applicants respectfully submit that the cited references fail to disclose or suggest at least the feature to identify suspicious measurements, as recited in claim 1 and similarly recited in claims 3 and 5 because Kalliojärvi fails to cure the admitted deficiencies of Dupray and Dvorak. The Office Action relied on Kalliojärvi to disclose this feature. However, Kalliojärvi merely involves identifying suspicious data subunits on

the basis of its estimated decoding reliability. This is entirely different to identifying suspicious location measurements according to the effect of ignoring them in a location calculation, as recited in claims 1, 3 and 5. Thus, the cited references fail to disclose or suggest at least this feature because Kalliojärvi fails to cure the admitted deficiencies of Dupray and Dvorak.

Applicants further submit that the cited references fail to disclose or suggest all of the features of any of the pending claims. Specifically, there is a lack of motivation to combine the teachings of Dupray, Dvorak and Kalliojärvi because the references are non-analogous and therefore, a person skilled in the art would not seek to combine the teachings of the cited references.

As discussed above, Dvorak relates to a method for locating a small mobile robot called a "scout" using larger robots ("rangers") and employing GPS measurements. Thus, Dvorak does not relate to a telecommunications system such as a mobile communications network of the type described in the present application. Thus, one skilled in the art would not combine Dvorak with Dupray because Dvorak is directed to an entirely different technical problem, in a different technical area than Dupray. Applicants submit that any motivation to do so is the result of improper hindsight reasoning.

Further, as discussed above, Kalliojärvi relates to a method for reliably receiving digital information from a transmitting device. Kalliojärvi merely concerns how packet data is coded, transmitted and received, including how errors in the data are corrected and how data is retransmitted. This document does not appear to relate to determining the

location of a mobile user at all. Thus, one skilled in the art would not seek to combine the teachings of Kalliojärvi with either of Dupray and/or Dvorak. Applicants submit that any motivation to do so is the result of improper hindsight reasoning.

Applicants respectfully submit that because claims 2, 4 and 6 depend from claims 1, 3, and 5, these claims are allowable at least for the same reasons as claims 1, 3, and 5, as well as, for the additional features recited in these dependent claims.

Based at least on the above, Applicants respectfully submit that the cited references fail to disclose or suggest all of the features of claims 1-6. Accordingly, withdrawal of the rejection of claims 1-6 under 35 U.S.C. 103(a) is respectfully requested.

The Office Action rejected claims 7-20 under 35 U.S.C. 103(a) as being obvious over Dupray in view of Kalliojärvi. The Office Action took the position that Dupray disclosed all of the features of these claims except for the feature of a suspicious measurement identifier. The Office Action asserted that Kalliojärvi disclosed this feature. Applicants respectfully submit that the cited references fail to disclose or suggest all of the features recited in any of the pending claims.

Claim 7, from which claims 8-11 depend, is directed to a location system. A controller is configured to control at least one base station. A location service node is configured to provide a client application with a measurement regarding geographic location information of at least one mobile station. An interface is configured to receive the measurement regarding the geographic location information of the at least one mobile

station and to transmit the measurement regarding the geographic location information to a location device. The location device is further configured to determine a location estimate based upon the measurement regarding the geographic location. A suspicious measurement identifier is configured to identify suspicious measurements by analyzing a discrepancy between the measurement and the location estimate.

Claim 12, from which claims 13-16 depend, is directed to a method for providing location information to a user in a communication system. The method includes controlling at least one base station, and providing a client application with a measurement regarding geographic location information of at least one mobile station. The method further includes receiving the measurement of the geographic location information of the at least one mobile station, and transmitting the measurement of the geographic location information to a location means for providing location services. Further, the method includes determining a location estimate based upon the measurement regarding the geographic location, and identifying suspicious measurements by analyzing a discrepancy between the measurement and the location estimate.

Claim 17, from which claims 18-20 depend, is directed to a location system. A controlling means controls at least one base station. A first providing means provides a client application with a measurement regarding geographic location information of at least one mobile station. A receiving means receives the measurement regarding the geographic location information of the at least one mobile station. A transmitting means

transmits the measurement regarding the geographic location information to a location means for location services. A determining means determines a location estimate based upon the measurement regarding the geographic location. An identifying means identifies suspicious measurements by analyzing a discrepancy between the measurement and the location estimate.

Dupray and Kalliojärvi are discussed above. Applicants respectfully submit that the cited references fail to disclose or suggest at least the feature of an suspicious measurement identifier configured to identify suspicious measurements, as recited in claim 7 and similarly recited in claims 12 and 17. The Office Action relied on Kalliojärvi to disclose this feature. However, Kalliojärvi merely involves identifying suspicious data subunits on the basis of its estimated decoding reliability. This is entirely different to identifying suspicious location measurements according to the effect of ignoring them in a location calculation, as recited in claims 7, 12 and 17. Thus, the cited references fail to disclose or suggest at least this feature because Kalliojärvi fails to cure the admitted deficiencies of Dupray.

Further, Applicants reiterate that there is a lack of motivation to combine the teachings of Kalliojärvi with Dupray as discussed above.

Applicants respectfully submit that because claims 8-11, 13-16 and 18-20 depend from claims 7, 12 and 17, these claism are aloowable at least for the same reasons as claims 7, 12 and 17, as well as for the additional features recited in these dependent claims.
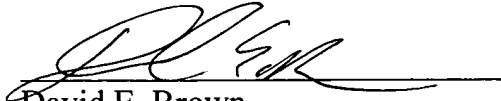
Based at least on the above, Applicants respectfully submit that the cited references fail to disclose or suggest all of the features recited in acclaims 7-20. Accordingly, withdrawal of the rejection of claims 7-20 under 35 U.S.C. 103(a) is respectfully requested.

Applicants respectfully submit that each of claims 1-20 recite features that are neither disclosed nor suggested in any of the cited references. Accordingly, it is respectfully requested that each of claims 1-20 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

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Enclosures: Petition for Extension of Time
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